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ABSTRACT

Part of an 18-month longitudinal investigation of mother-child language-teaching interactions, this study describes changes in mothers' use of elicting strategies over time as their children's language became more complex. The focus was the adjustments mothers make to fit their behavior to their child's linguistic skills and development. Samples of interactions between mothers and children videotaped in their homes when the children were 16, 21, 24, and 30 months old were analyzed. Mother utterances eliciting child verbalizations were coded for utterance type (specific form, information option seeking, clarification, or modeling), level of cue or amount of support provided by the utterance, and complexity of the expected child response. Child responses were coded according to their degree of correctness. The results suggest that mother expectations for child responses clearly change over time in relation to development in the child's skills, with decreasing cue support for the child's response, increasing interaction frequency, decrease in likelihood of mothers letting their questions go unanswered, and increasing use of repetition when the child does not respond. Modeling was used most frequently as a first elicitation tactic at 21 months, secondarily at 24 months, and infrequently later. (MSE)

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Mothers' Strategies for Eliciting Child Verbalizations[1]

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[1]Paper presented at the Boston Child Language Conference, Boston University, October 26, 1985. Please do not quote or reproduce without permission of the authors.

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Mothers spend a great deal of their time eliciting verbalizations from their language learning children. When questions and other eliciting strategies (primarily modeling) are considered together, mother elicitations may take up as much as 40% of mothers utterances during interactions with their young children (Shatz, 1978). The purposes of mother elicitations vary with the conversational context (Olsen-Fulero & Conforti, 1983). Mothers may seek real information from their children, ask them "test questions," seek clarifications of their children's preceding utterances, or prompt imitations. Questions and prompts are an efficient means of promoting turntaking in conversations (Ervin-Trip & Miller, 1977; Blount, 1977). Sequences or episodes of eliciting may also serve a language teaching function as has been suggested by Moerk (1976; 1983). Moerk has proposed that, when a child fails to respond or to respond appropriately to a mother question, mothers systematically reduce the complexity of the expected child response by shifting the form of their questions to make the child's task easier. This systematic shift or "break down" sequence supports the child's response and in doing so encourages learning or at least practicing information that the child has not completely mastered.

The current study examined developmental changes in mothers questions as their children matured linguistically. In particular, we were interested in episodes of mother elicitations that occured when children failed to respond to an initial question. By focusing on these episodes, it is possible to examine if and how mothers use their child's responses as information affecting their own behavior. Eliciting episodes are interactional: mother and child responses are adapted to one another by the very nature of the interchange. For this reason, eliciting episodes provide an excellent opportunity to study the immediate adjustments mothers make to fit their behavior to their child's apparent skills.

The purpose of the current study was to describe changes in mothers' use of eliciting strategies overtime as their children's language became more complex. Changes in sequences of eliciting events were examined from two perspectives, linguistic and pragmatic. Evidence of changes in mother elicitations toward reducing the linguistic complexity of the response expected from the child or toward providing more cues for the child's response would support Moerk's notion of "breakdown" sequences as a potential teaching device in mother-child interactions.

METHOD

SUBJECTS

The seven mother-child dyads who participated in the study were part of an 18-month longitudinal investigation of mother-child language-teaching interactions. Each dyad in the longitudinal study was selected on the basis that the mothers had a high school level education, were not employed outside the home, and were the primary caretakers of their children. All children were normally developing and were 16 months old when the study began.

SAMPLE SELECTION

Four of the 18 available samples (16, 21, 24, and 30 months) were selected for use in this study. Samples were selected to represent changes in child linguistic competency across the 18-month period.

SETTING

Mother-child dyads were videotaped in their home monthly by trained home visitors. Each videotaped session lasted 20

minutes. Mothers were instructed to play as naturally as possible with their child using toys provided by the home visitors and the child's favorite toys.

CODING

Verbatim transcripts were prepared then coded for pragmatic intent by trained coders (Rogers-Warren, Alpert, McQuarter, Merola and Weeks, 1980). Utterances coded in the category "Mother Elicits Verbal" were the data base for this study. These mother utterances were subsequently coded for form of the utterance (type of question: specific form, information option seeking, clarification; or modeling), the level of cue or amount of support provided by the utterance (ranging from no support to a model of the expected response) and complexity of the expected child response (from 0 to 5 units of complexity, based on Lee 1974). This scoring system is summarized in Table 2.

Insert Table 2 about here

Child responses were coded according to their degree of correctness using the scheme also summarized in Table 2. Episodes were defined as sequences of mother utterances

attempting to elicit the same target child verbalization. Thus, when children responded immediately and appropriately to a single mother question or model, those mother utterances were not included in episode analysis.

RELIABILITY

Reliability checks were performed on each category of mother and child behavior for each of the months sampled. A total of 10 reliability checks were conducted. The overall reliability scores for mother and child behaviors was 91% and ranged from 88% to 96%.

RESULTS

The results are presented in three parts: a brief general description of mothers' eliciting strategies, general information on child langauge skills and responses to mother eliciting strategies, and a description of related mother and child behavior in episodes.

Mother Eliciting Strategies

Mothers used four primary eliciting strategies: Asking questions that requested a specific response (SF); modeling a spcific

response (SFM), asking questions that sought unknown information or opinion (IOQ), and asking yes/no questions that tested the child's receptive knowledge (RTQY). Distribution of these types changed across the four ages sampled, as shown in Figure 1. Specific form questions increased, receptive testing questions descreased. Use of modeling was highest at 21 months and across samples.

As shown in Figure 2, the average complexity of the expected child response increased across samples. Diversity [total number of different forms of mother elicitation utterances: calculated as sum of possible cue types (3) plus form types (6) plus complexity levels (6) was fairly constant across samples, however the distribution across types shifted so that there was more equitible use of all types in the later samples.

Insert Figure 2 about here

Mean number of mother elicitations was increased across months, averaging from 40-62. Mean Length of episode averaged 2.6 and was stable across months.

Child Language Performance and Responsiveness

Figure 3 summarizes the changes in child language. MLU increased from 1.21 to 2.5. There was considerable variability among the seven children in MLU during the later samples. Number of truly spontaneous (unprompted) utterances and novel vocabulary showed similar developmental trends.

Insert Figure 3 about here

As shown in Figure 4, over time, correct responses to mother elicitations increased from an average of 8% at 16 months to 55 % at 30 months. Concurrently, occasions of no response declined from an average of 61% at 16 months to 6% at 30 months. Incorrect responses increased from less than 2% to an average of 19%.

Insert Figure 4 about here

Episodes

Episodes or sequences of mother elicitations occurred when the child failed to respond or responded incorrectly to the mother's initial attempt to elicit a response. The average number of such episodes ranged from 5.6 at 16 months to 13.7 at 27 months. Average length of episode did not change across samples. Across time, mothers were increasingly likely to follow a child's non-response with a second attempt to elecit a reponse; simultaneously, child failure to respond declined. Figure 5 shows the percentage of mother elicitations within episodes that were followed by no child response. Data are presented for each of the four major functional categories of mother elicitations.

Insert Figure 5 about here

Our primary interest in the episode analysis was the change in strategy the mother used when the child failed to respond. Changes were defined in terms of functional shifts (changes in major categories of eliciting utterance) and in terms of linguistic shifts (changes in cue, form, or expected complexity of response).

Figure 6 shows the distribution of mother elicitation tactics

following a child no response. Two trends are of interest. First, across months, us of specific form questions increases steadily. Second, use of models as secondary elicitation strategy peaks at 21 months and declines thereafter. The distribution of strategies used in secondary elicitations is similar to the overall pattern of mother elicitation strategies across months.

Insert Figure 6 about here

Table 3 shows the distribution of mother elicitation tactics following incorrect, unintelligible and no child response. Overall, mothers were more likely to follow incorrect or unintelligble responses with something other than an elicitation (corrective feedback or simply another statement). A question asking for a specific reponse was the most likely followup. Except at 16 months, (when there was a moderate rate of modeling following unintelligible) modeling was not a frequently used consequence for unintelligible or incorrect responses. Mothers followed no response with modeling more often, but use of modeling declined after 24 months.

Insert Table 3 about here

A secondary elicitation might differ from the first elicitation in an episode by changing the cue, form or complexity dimension of the mothers utterance. Alternatively, the second elicitation might be a repetition of the preceding one. Table 4 shows the profile of changes in mother elicitations within episodes. During the first three sample months, almost all secondary elicitations were repetions or they contained changes in cue, form and complexity. At 30 months, there was a marked increase in the percentage of secondary elicitations that changed only in form (with cue and complexity remaining constant).

Insert Table 4 about here

DISCUSSION

The results of this study suggest several developmental patterns in mothers' elicitations. First, mother expectations for child responses clearly changed over time, suggesting that mothers were aware of and responsive to their child's changing language skills. Mothers asked for more complex information as their child's language skills increased. Although diversity in elicitations did not change significantly in terms of absolute numbers of categories used, there were shifts in the frequency of use of each category toward the use of elicitation strategies that provided less support for the child's response. Over time, the number of episodes increased, apparently because mothers were increasingly unlikely to let their questions go unanswered. In the early samples, a much larger proportion of unanswered questions were simply ignored and did not signal the beginning of an elicitation episode. Changes in mother expectations were also apparent their increasing use of repetitions when the child failed to respond. Early on, mothers provided more cues for the child and reduced the expected complexity of the child's response. Later, mothers were more likely to simply repeat the question. Possibly, mothers came to assume that child <u>did</u> know the answer, but was not attending or had not understood the question. Given the child's increasing language repertoire this

seems to be a reasonable assumption and it is supported by the child's increasing correct responses to all types of eliciting utterances.

The trend seen in use of modeling is particularly interesting. Modeling was used most frequently as a first elicitation tactic at 21 months and as a secondary tactic at 24 months. Modeling was used infrequently in the 27 and 30 month samples. This "peak" roughly corresponds to the period in which many young children are most imitative. It is not clear from the current data whether mothers are choosing this elicitation tactic because their children are likely to imitate or children are imitating because mothers are using models as an elicitation tactic. In a previous study [Kaiser & Blair, 1985] it was shown that mother choice of modeling as an eliciting tactic was related to child responsiveness and size of the child's spontaneous vocabulary.

Do these data support Moerk's proposition regarding the usefulness of mother breakdown sequences as a language teaching device? Clearly, these data show that mothers do what Moerk has proposed. Sequences of eliciting utterances were of two types: repetitions and breakdowns. Since we examined a subset of the "teaching" episodes described by Moerk, we observed a much lower frequency of such episodes than he has posited as occuring in early interactions. Furthermore, the current data are purely

descriptive and the analysis did not include an examination of the mother input - child output relationships. We need to examine the changes in eliciting strategy, content of interactions, and feedback on an individual dyad basis to obtain a clearer picture of how mothers make adjustments in their elicitations and how this affects children's language learning.

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TABLE 1

SUBJECT CHARACTERISTICS

SUBJECT #	SEX	MEAN LENGTH OF UTTERANCE			
		16 mos.	21 mos.	24 mos.	30 mos.
1	M	1.0	1.0	1.34	1.99
3	F	1.25	1.15	1.41	3.25
8	M	1.2	1.17	1.78	2.07
14	F	1.0	1.02	1.63	2.53
15	F	1.17	1.21	1.0	1.66
16	F	1.8	2.42	1.65	3.13
17	M	1.08	1.33	1.98	2.53

TABLE 2

CODING CATEGORIES

Codes for the Dimension of Complexity

COMPLEXITY TYPE	CLASS OF CHILD RESPONSE	TYPICAL QUESTIONS
0	Imitation	Say 'ball'.
I.	Person	Who is that?
	Thing	What is that?
	Animal	What animal is this?
	Animal Noises	What does the cow say?
II.	Place	Where is the ball?
	Quantity	How many? How old?
	Action	What are you doing?
	Purpose	What do you do with a hammer?
	Shape	What shape is this?
	Color	What color is this?
	Possession	Whose toy is that?
III.	Time	When shall we go?
	Manner	How do you do it?
	Relationships	What is bigger? Which is faster?
IV.	Causality	How come? Why is that happening?
	Probability	What if you put it on the top?
V.	Non-activity bound stimuli M is not expecting a response from the child (rhetorical) Free nands EXAMPLES: Tell me a story/ Tell me what's wrong/	

Note: There is an implicit hierarchy in the complexity coding system based on the child's potential response. Complexity Levels from 0 to V represent increasingly difficult and sophisticated child responses.

Codes for the Dimension of Cue

CUE	TYPE	
Specific Form with a Model	(SFM)	Mother's EVU seeks a specific answer from the child. Mother's utterance provides a model. Example: Say ball.
Specific Form employing a Question and a Model	(SFMQ)	Mother's EVU seeks a specific answer from the child. The mother's utterance is in question form and provides a model. Example: Can you say 'ball'?
Specific Form	(SF)	Mother's EVU functions to elicit a specific form from the child. No model is provided. Example: Tell me what this is.
Specific Form employing a Question	(SFQ)	Mother's EVU seeks a specific form from the child. The utterance is in question form. Example: What is this?
Information or Opinion Seeking Question	(IOQ)	Mother's EVU seeks information that is unknown to the mother or an opinion from the child. Example: What do you want that for?

Note: There is a three-level hierarchy in the cue coding system based on the saliency or amount of information mother's EVUs provide. The cue types may be arranged in the following order according to the increasing sophistication of the child response: SFM and SFMQ, SF and SFQ, IOQ.

Codes for the Dimension of Form

FORM TYPE	CONSTITUENTS	EXAMPLES
A	(say / tell me / tell mom)° WH* ° (is / are / do / does / did) ⟷ noun phrase	A_1 Tell me who this is. A_2 What is this?
B	(say / tell me / tell mom)° WH ° X ° (is / are / do / does / did) ⟷ X	B_1 Say what kind of animal this is. B_2 Which color is this?
C	(say / tell me / tell mom)° WH ° (has / is / are / do / does / did) ⟷ NP ° VP(+X)	C_1 Tell me what the kitty is saying to the duck. C_2 What's the doggie doing with the stick?
D	(say / tell me / tell mom)° WH ° (you are / are you / will you / you (will)) ° (doing / gonna do / did / do) ° X	D_1 Say what you did last night. D_2 What are you gonna do now?
E	(say / tell me / tell mom)° MODEL	E_1 Say hi. E_2 Can you say horse?
I	(say / tell me / tell mom)° X	I_1 Tell me a story. I_2 Why are you crying?

*who
what
when
where
why
how

Codes for Child Response

CORRECT: Child responds correctly to mother's EVU

PARTIALLY CORRECT: Child responds with only part of the elicited utterance.

EXAMPLE: M: Say hello Daddy
C: Daddy

SEMANTICALLY RELATED:

EXAMPLE: M: What is that?
(giraffe)
C: A long neck

INCORRECT: Child response is intelligible but incorrect

EXAMPLE: M: How do ducks go?
C: meow meow

UNINTELLIGIBLE: Child responds, but utterance is unintelligible

NO RESPONSE: Child fails to respond to mother eliciting tactic

Table 3

DISTRIBUTION OF TEACHERS OF MOTHER'S FOLLOW-UP UTTERANCES TO CHILD INCORRECT, UNINTELLIGIBLE AND NO RESPONSE WITHIN EPISODES

Child Age	INCORRECT					UNINTELLIGIBLE					NO RESPONSE				
	SF	SFM	IOQ	RTYQ	Other	SF	SFM	IOQ	RTYQ	Other	SF	SFM	IOQ	RTYQ	Other
16 mos.	---------- (no incorrect responses) ----------					16	25	2	10	47	25	13	6	20	35
21 mos.	17	15	0	6	62	14	15	2	12	57	29	30	6	17	18
24 mos.	67	5	0	6	22	60	6	0	7	27	33	12	0	17	38
30 mos.	39	8	0	0	53	29	2	0	14	55	59	18	5	10	8

Table 4

Profile of Mother Change of Tactic Within Episodes

(Mean Percent)

Child Age	Number of Episodes	Cue	Cue & Form	Complexity	Complexity & Cue	Form	Form & Complexity	Cue & Form & Complexity	No Change (Repetition)
16 mos.	5.6	7*	-	-	-	3.6	7	38	44
21 mos.	9.1	-	-	-	-	0.6	0.6	46	53
24 mos.	13.7	2	-	-	-	4	1	32	61
30 mos.	12.4	2	-	0.9	-	18	3	24	51

*Represents one dyad

C: Correct
PC: Partially Correct
SR: Semantically Related
I: Incorrect
UnI: Unintelligible
NR: No Response

Distribution of Categories of Child Response to Mother Episodes

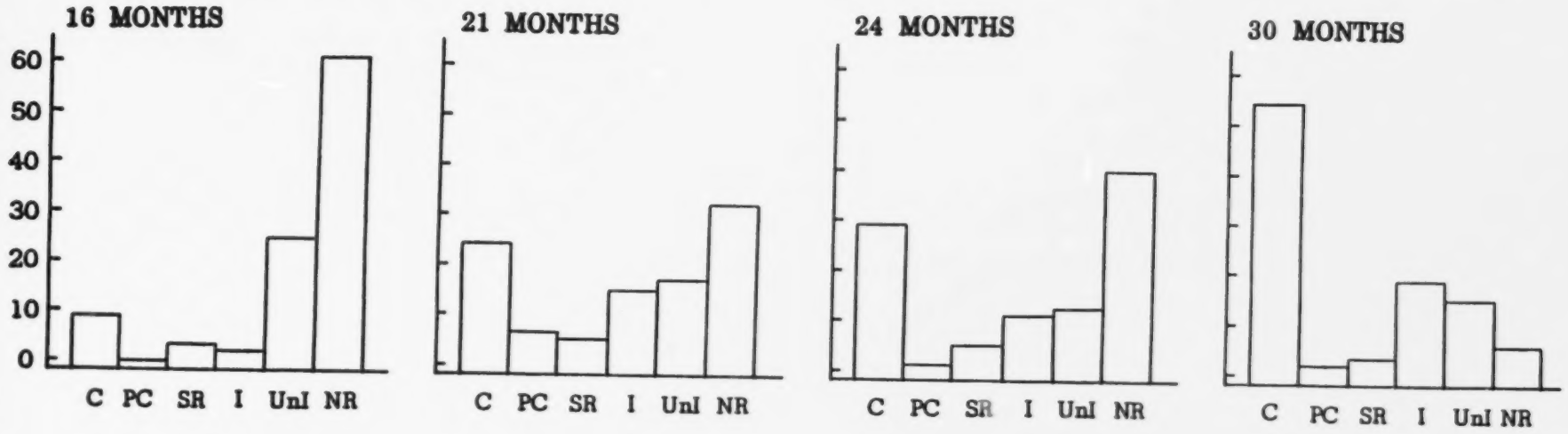

FIGURE 4

Mother Strategies to Elicit Child Verbalizations Distribution by Function

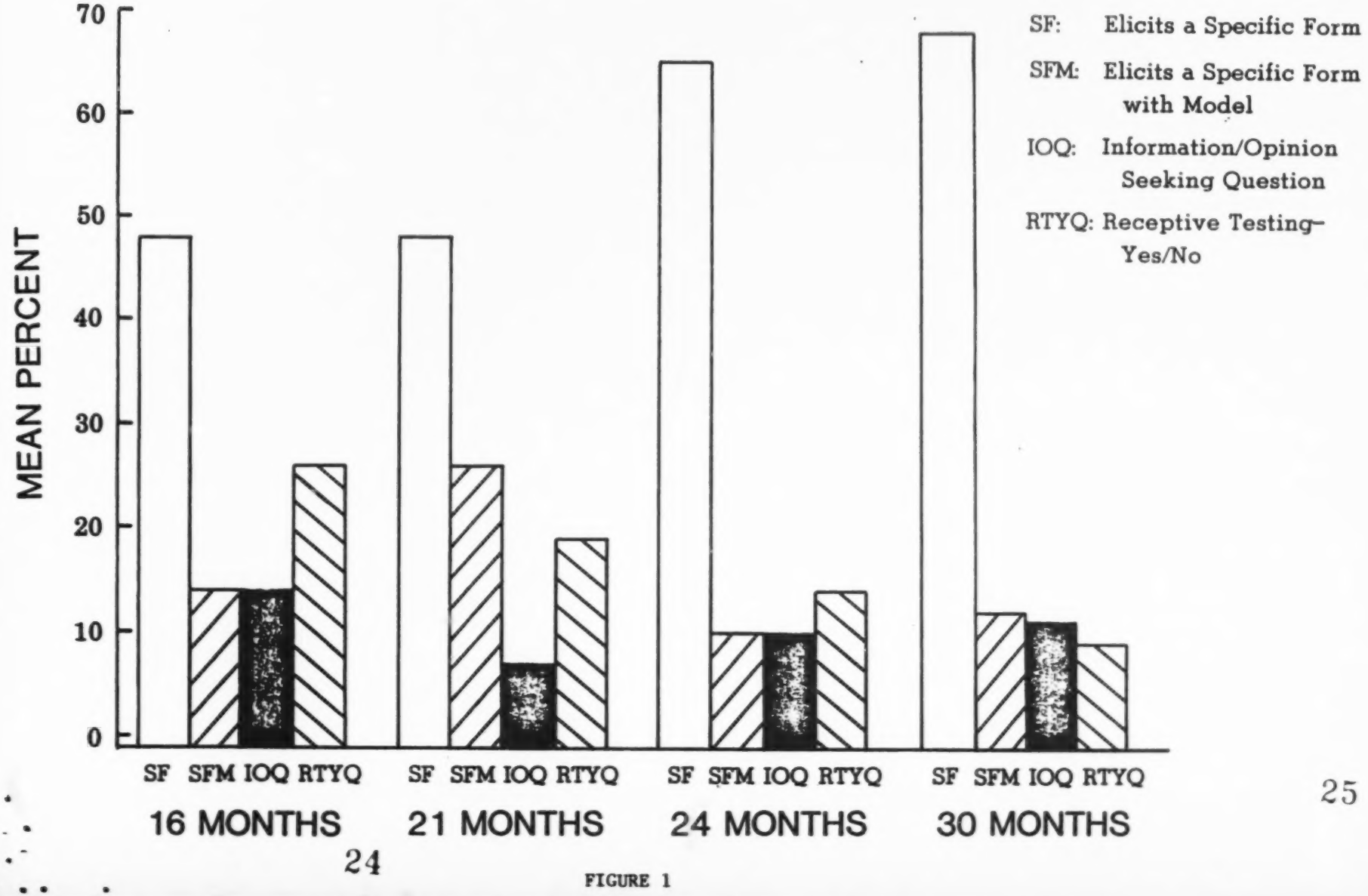

FIGURE 1

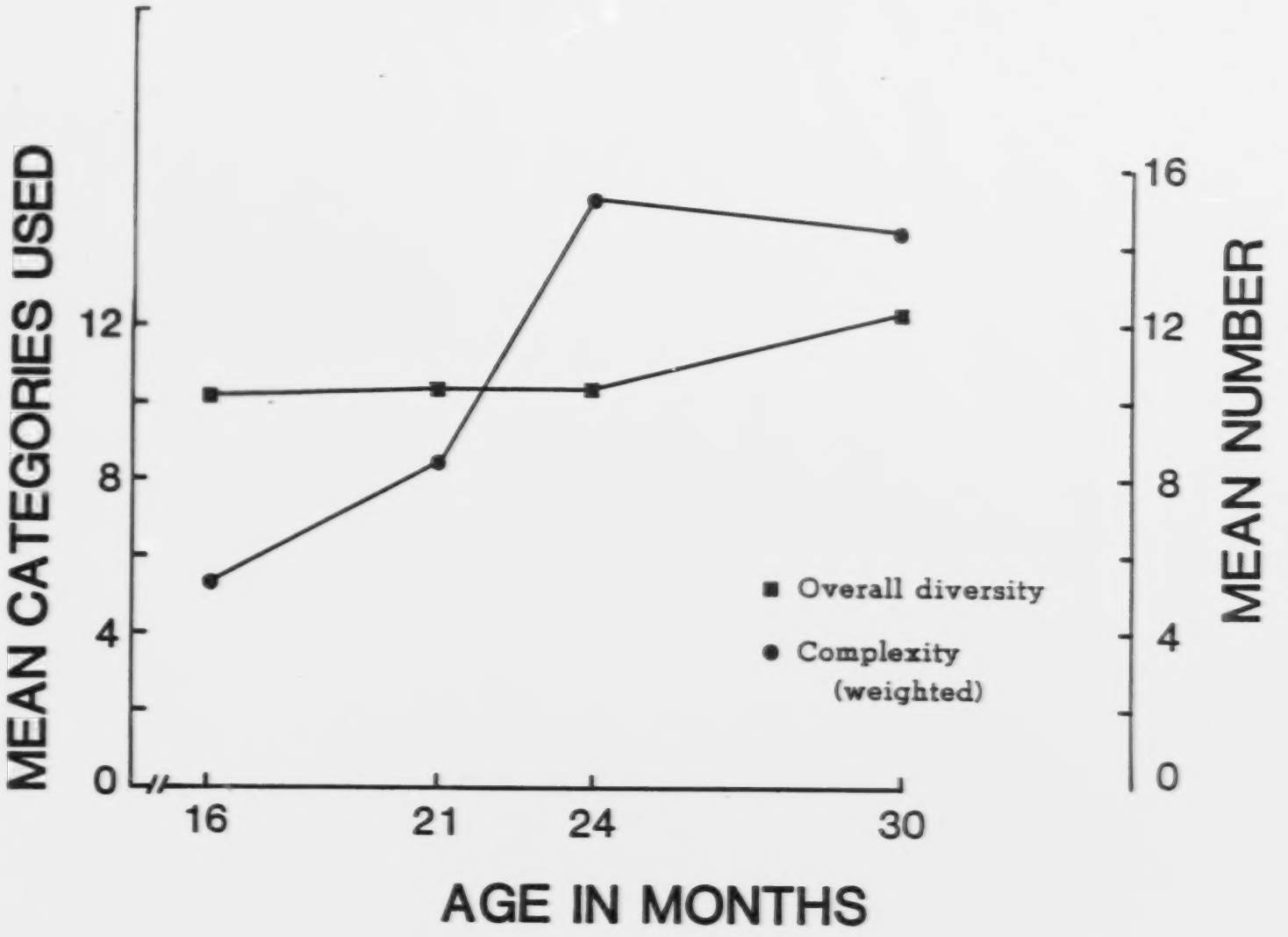
DIVERSITY AND COMPLEXITY OF MOTHER ELICITING VERBAL RESPONSE
MEAN CATEGORIES USED
0
4
8
12
16
21
24
30
AGE IN MONTHS
Overall diversity
Complexity (weighted)
MEAN NUMBER
0
4
8
12
16

FIGURE 2

Child Spontaneous Speech in First 50 Intelligible Utterances

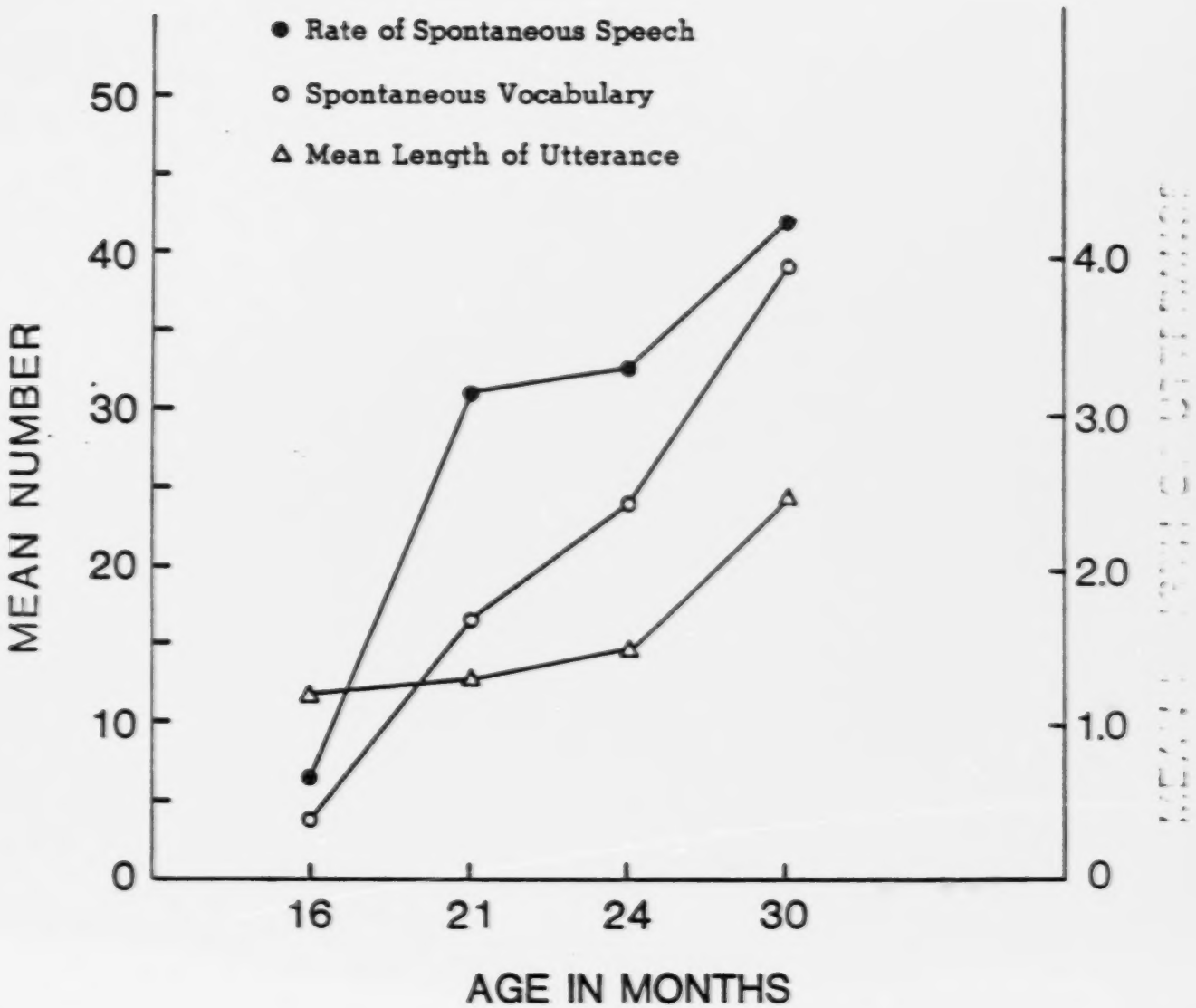

Figure 3

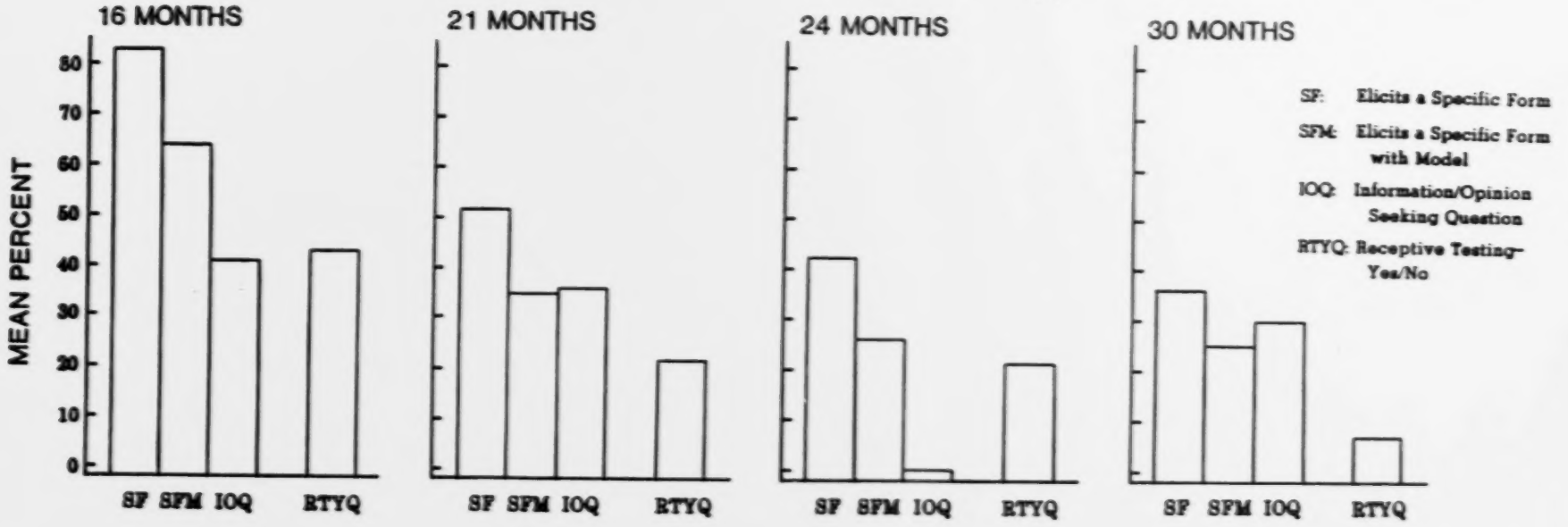
% Mother Elicitations within Episodes Followed by "No Response"
16 MONTHS
21 MONTHS
24 MONTHS
30 MONTHS
MEAN PERCENT
0
10
20
30
40
50
60
70
80
SF SFM IOQ RTYQ
SF: Elicits a Specific Form
SFM: Elicits a Specific Form with Model
IOQ: Information/Opinion Seeking Question
RTYQ: Receptive Testing-Yes/No

FIGURE 5

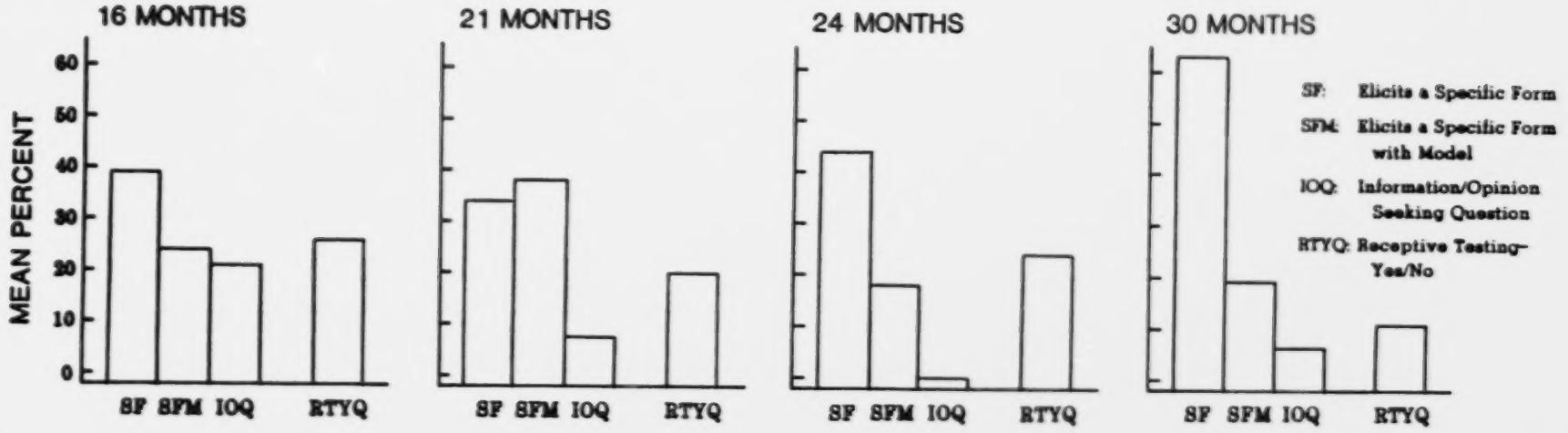
% Distribution Mother Elicitation Tactic Following Child "No Response"
16 MONTHS
21 MONTHS
24 MONTHS
30 MONTHS
MEAN PERCENT
0
10
20
30
40
50
60
SF SFM IOQ RTYQ
SF: Elicits a Specific Form
SFM: Elicits a Specific Form with Model
IOQ: Information/Opinion Seeking Question
RTYQ: Receptive Testing–Yes/No

FIGURE 6